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Conference Abstract

Mangal: An open infrastructure for ecological interactions

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Abstract

Interactions among species is at the heart of ecology. Despite their importance, studying ecological interactions remains difficult due to the lack of standard information and the disparity of formats in which ecological interactions are stored (Poisot et al. 2015). Historically, ecologists have used matrices to store interactions, which tend to easily decontextualize interactions from fieldwork when metadata is missing. To overcome these limitations, we designed Mangal - a global ecological interactions database - which serialize ecological interaction matrices into nodes (e.g. taxon, individuals or population) and edges. This database offers the opportunity to store information on traits, environment and homogenized taxonomy through unique taxonomic identifiers such as Encyclopedia of Life (EOL), Catalogue of Life (COL), Global Biodiversity Information Facility (GBIF) and Integrated Taxonomic Information System (ITIS). Here, we present the new release of Mangal including more than 120,000 interactions, 1,300 networks from 172 scientific publications distributed across the globe. We explore the content, illustrate case studies and present templates in order to contribute to this open infrastructure. For this purpose, we developed and maintained two packages/clients from popular scientific languages: R and Julia to facilitate data access, curation and network deposits on the database (Source code).

Keywords

ecological networks, web services, open platform, Julia, R

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References

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